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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,982

09/25/2006

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04/15/2008

EXAMINER

HOBAN, MATTHEW E

ART UNIT

PAPER NUMBER

1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,982	Applicant(s) COTLEAR DE WITZMANN ET AL.	
	Examiner Matthew E. Hoban	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/31/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 13-14 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppler in 5,783,506 in view of Bujard in 7,291,216.

Eppler discloses a glaze that is composed primarily of boroaluminosilicate frit, where iron oxide-coated mica “color-flop pigments” (or pearlescent pigments) are added to the mixture and fired to create a glaze. The oxide coated mica is a pearlescent pigment and is added to the mixture in an amount between 6 and 8 wt% according to the eight examples provided. The glaze of Eppler is used by combining 90.5 g of a commercially available frit, which is a silicate based frit that can undergo high thermal loads, with the oxide coated mica, where fumed silica is also added and could be considered a filler.

Art Unit: 1793

The composition is then used to decorate a tile using a screen printing technique (See Example 8). The glaze, which comprises a frit and colorant, is considered a melt upon subsequent firing. The thus fired glaze created a decorated glass ceramic or glass article.

Eppler does not teach the use of oxide coated silica pearlescent pigments.

However, Bujard teaches platelet shaped pigments, which are coated with metal oxides, especially Titania. These pigments can have a core of Silicon dioxide, which is synthetically made through a deposition process, and are deemed to be useful in many applications including, use in glazes for ceramics and glasses (See Abstract). These pigments are also stated as having a high degree of plane parallelism. Relevant embodiments of Bujard's invention can be found in Column 4, Lines 10-40 as well as examples 3 and 4, where it is noted that titania is an especially good coating for the pigment's Silica core. As can be seen in Table 2, these are "color flop" or goniochromatic pigments since the color parameters of the pigment changes with viewing angle. This combination could then be used in the same screen printing process as Eppler.

The pigments of Bujard are directly importable into the glaze of Eppler, due to the fact that Bujard's pigments are said to be useful in glazes for glasses and ceramics. Both pigments exhibit the same effect on the glaze by adding a pearlescent or "color-flop"

Art Unit: 1793

effect. Furthermore, one of ordinary skill would realize that by adding the pigments of Bujard, they could create a glaze with different coloration, while retaining a pearlescent effect. These different aesthetic properties would obviously motivate one of ordinary skill, since the art of glazing deals heavily with aesthetics. Coloration is a major aspect of aesthetics. If one of ordinary skill desired to make a glaze with the coloration characteristics similar to those found in Table 2, his options would be limited. If one further desired a color-flop effect, his options would be further limited. Therefore, one would chose from a very finite number of pigments to create the desired aesthetic effect.

4. Claims 15, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppler in 5,783,506 in view of Bujard in 7,291,216 as applied to claim 13-14 above, and further in view of Merck in "Colorstream T20-02 WNT Arctic Fire Product Information".

Eppler in view of Bujard discloses a glazing composition incorporating synthetically produced plane-parallel silicon dioxide platelets coated with titanium dioxide. These pigments are color-flop or pearlescent pigments. The composition is based on a silicate frit so is able to undergo large thermal loads. The composition is then used to decorate a tile using a screen printing technique (See Example 8). The glaze, which comprises a frit and colorant, is considered a melt upon subsequent firing. The thus fired glaze created a decorated glass ceramic or glass article.

Eppler in view of Bujard do not teach the specific properties of the titanium dioxide coated silicon dioxide platelets as delineated in claims 13-14.

However, Merck teaches inorganic oxide pigments, which fall under the class of pigments as disclosed by Bujard.

Regarding claims 15 and 18: This specific pigment is based on synthetically manufactured silicon dioxide platelets coated with titanium dioxide, where their particle size ranges from 5-40 microns and more than 80% of the particles are within this limit (See Figure 4). Furthermore, the particles exist as a free flowing powder

Regarding claim 16 and 18: The pigment as disclosed by Merck has a composition of 59 wt% silicon dioxide, 36.7 wt% titanium dioxide, 2.7 wt% tin dioxide, and 1.6 wt% zirconium dioxide.

The pigments created by Merck are a species of the particles as made by Bujard. Once again Bujard teaches a silicon based oxide as a core, which can be silicon dioxide. This silicon dioxide is coated with another metal oxide of high refractive index. The most notable metal oxide in the Bujard reference is Titanium Oxide, but other oxides such as zirconium dioxide and tin dioxide are listed as possible coatings (See Column 3, Lines 26-45). As mentioned previously, the metal oxides of Bujard are

Art Unit: 1793

disclosed as being useful in glazes for ceramics and glasses. Since the pigments of Merck are a species of the pigments of Bujard, one of ordinary skill in the art would determine that these species would be useful in the same application as their genus. Therefore one of ordinary skill would have a reasonable expectation that incorporation of the Merck pigments into the composition of Eppler would successfully impart a coloring effect. One of ordinary skill Furthermore, one of ordinary skill would realize that by adding the pigments of Merck, they could create a glaze with different coloration, while retaining a pearlescent effect. These different aesthetic properties would obviously motivate one of ordinary skill, since the art of glazing deals heavily with aesthetics. Coloration is a major aspect of aesthetics. If one of ordinary skill desired to make a glaze with the coloration characteristics similar to those found in Table 2, his options would be limited. If one further desired a color-flop effect, his options would be further limited. Therefore, one would chose from a very finite number of pigments to create the desired aesthetic effect.

5. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppler in 5,783,506 in view of Bujard in 7,291,216 as applied to claim 13-14 above, and further in view of Merck in "Colorstream T20-03 WNT Tropic Sunrise Product Information".

Eppler in view of Bujard discloses a glazing composition incorporating synthetically produced plane-parallel silicon dioxide platelets coated with titanium

Art Unit: 1793

dioxide. These pigments are color-flop or pearlescent pigments. The composition is based on a silicate frit so is able to undergo large thermal loads. The composition is then used to decorate a tile using a screen printing technique (See Example 8). The glaze, which comprises a frit and colorant, is considered a melt upon subsequent firing. The thus fired glaze created a decorated glass ceramic or glass article.

Eppler in view of Bujard do not teach the specific properties of the titanium dioxide coated silicon dioxide platelets as delineated in claims 15 and 17.

However, Merck teaches inorganic oxide pigments, which fall under the class of pigments as disclosed by Bujard.

Regarding claims 15: This specific pigment is based on synthetically manufactured silicon dioxide platelets coated with titanium dioxide, where their particle size ranges from 5-40 microns and more than 80% of the particles are within this limit (See Technical Data). Furthermore, the particles exist as a free flowing powder

Regarding claim 17: The pigment as disclosed by Merck has a composition of particle size where d10 is 8.7, d50 is 19.3, and d90 is 37.1 (See Technical data).

The pigments created by Merck are a species of the particles as made by Bujard. Once again Bujard teaches a silicon based oxide as a core, which can be silicon

Art Unit: 1793

dioxide. This silicon dioxide is coated with another metal oxide of high refractive index. The most notable metal oxide in the Bujard reference is Titanium Oxide, but other oxides such as zirconium dioxide and tin dioxide are listed as possible coatings (See Column 3, Lines 26-45). As mentioned previously, the metal oxides of Bujard are disclosed as being useful in glazes for ceramics and glasses. Since the pigments of Merck are a species of the pigments of Bujard, one of ordinary skill in the art would determine that these species would be useful in the same application as their genus. Therefore one of ordinary skill would have a reasonable expectation that incorporation of the Merck pigments into the composition of Eppler would successfully impart a coloring effect. One of ordinary skill Furthermore, one of ordinary skill would realize that by adding the pigments of Merck, they could create a glaze with different coloration, while retaining a pearlescent effect. These different aesthetic properties would obviously motivate one of ordinary skill, since the art of glazing deals heavily with aesthetics. Coloration is a major aspect of aesthetics. If one of ordinary skill desired to make a glaze with the coloration characteristics similar to those found in Table 2, his options would be limited. If one further desired a color-flop effect, his options would be further limited. Therefore, one would chose from a very finite number of pigments to create the desired aesthetic effect.

6. Claims 13, 14, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotlear de Witzmann in 6,794,020 in view of Bujard in 7,291,216.

Art Unit: 1793

Cotlear de Witzmann teaches a glass composition with similar (**exactly the same**) ranges of composition as the instantly claimed ranges as in claim 19 (See column 7). This composition further contains pigments such as ZrSiO_4 , TiO_2 , CaO_2 , ceramic yellow pigments, such as Zr/Sr/Pr oxides and brown pigments, such as Zn/Cr/Pr oxides and other minor constituents (Relevant to Claim 20; Column 7, lines 20-24). This composition is intended to be used on a cooking surface so it obviously undergoes high thermal loads, which are inherently the same as those experienced by the current invention. Finally as stated by 6,794,020, this composition can be used for decorative purposes on a cooking surface, where cooking zone markings, marking for operating elements, and company logos can be applied according to the desire of the customer. Furthermore, this process is performed by screen printing (Relevant to claims 21-22; See Column 9, lines 6-20).

Cotlear de Witzmann does not teach the use of oxide coated silica pearlescent pigments.

However, Bujard teaches platelet shaped pigments, which are coated with metal oxides, especially Titania. These pigments can have a core of Silicon dioxide, which is synthetically made through a deposition process, and are deemed to be useful in many applications including, use in glazes for ceramics and glasses (See Abstract). These pigments are also stated as having a high degree of plane parallelism. Relevant

Art Unit: 1793

embodiments of Bujard's invention can be found in Column 4, Lines 10-40 as well as examples 3 and 4, where it is noted that titania is an especially good coating for the pigment's Silica core. As can be seen in Table 2, these are "color flop" or goniochromatic pigments since the color parameters of the pigment changes with viewing angle. This combination could then be used in the same screen printing process as Cotlear de Witzmann.

The pigments of Bujard are directly importable into the glaze of Cotlear de Witzman, due to the fact that Bujard's pigments are said to be useful in glazes for glasses and ceramics. These pigments could be used in the same amounts as the conventional pigments of Cotlear de Witzmann, which is around 12.5 wt% (See Example).

Furthermore, one of ordinary skill would realize that by adding the pigments of Bujard, they could create a glaze with different coloration, while also adding a pearlescent effect to the glaze as well. These different aesthetic properties would obviously motivate one of ordinary skill, since the art of glazing deals heavily with aesthetics. Coloration is a major aspect of aesthetics. If one of ordinary skill desired to make a glaze with the coloration characteristics similar to those found in Table 2, his options would be limited. If one further desired a color-flop effect, his options would be further limited. Therefore, one would chose from a very finite number of pigments to create the desired aesthetic effect.

Response to Arguments

7. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

However, the examiner would like to discuss several points made by the applicant which still remain relevant to the current action.

Motivation: The applicant discusses motivation to combine at page 24 of his response. That motivation was still used in the preceeding rejection. The applicant argues that the motivation is insufficient in that one of ordinary skill in the art could choose from a vast number of pigments to provide an aesthetically pleasing quality to the ceramic panel. Therefore, the applicant states that it is not obvious to select a single pigment to provide an aesthetically pleasing quality to the panel. This argument is misguided in the respect that it fails to recognize the scope and subjective nature of aestheticism. It indeed may be true that there are countless colorants that fulfill the thermal requirements required in glazing. The applicants submit that these pigments should not be ignored. The applicant fails to realize that one of ordinary skill in the art would use additional factors when selecting a proper pigment. One of the most important being the primary function of the pigment, its color. If a certain pigment were to impart a color which was not desired, these pigments could indeed be ignored. Therefore, only those pigments imparting the desired color effect would be considered by one of ordinary skill, which would not comprise a countless number of options, but a

finite one. For example, if one desired a pink glaze, one would not use green pigments. Furthermore, if one were to further require that the pigment have a goniochromatic effect, this list would be further limited. In either respect, the number of options presented, which would present the **desired** aesthetic effect, would be extremely limited.

Temperature Stability: Applicant makes the argument on page 29 that COLORSTREAM Artic fire pigments are only heat stable up to 230C. However, this statement is a misrepresentation of the information found on the submitted Technical Data Sheets. The sheets state that the composition is stable “up to 230C”, this fact gives no indication of its stability at temperatures above 230C. Furthermore the statement on the Technical Data Sheet reads “up to 230C” not “only up to 230C”. In fact similar pigments such as those of Bujard are explicitly stated as being useful in glazes, which require processing temperatures much greater than 230C.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 1793

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Hoban whose telephone number is (571) 270-3585. The examiner can normally be reached on Monday - Friday from 7:30 AM to 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry A Lorengo/
Supervisory Patent Examiner, Art Unit 1793

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